

# The latest developments in the policy and regulatory framework for the management of decommissioning wastes

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# **UK regulatory framework for decommissioning and the management of decommissioning wastes**

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All the material in this presentation will appear in a new SD:SPUR information paper on the UK regulatory framework for decommissioning and the management of decommissioning wastes. This information paper is in draft at present. It is due to be finalised and placed on the SD:SPUR website in April or May 2007.

The information paper deals mainly with decommissioning on nuclear-licensed sites and the management of wastes produced during decommissioning of facilities on these sites. It also covers nuclear sites operated by the Ministry of Defence (MoD), which do not need to be licensed under the Nuclear Installations Act 1965 but operate an equivalent nuclear safety regime. In addition it deals with other sites and facilities where radioactive wastes may arise during decommissioning, such as non-nuclear defence sites, on-shore and off-shore oil and gas facilities, factories, laboratories and hospitals. The wastes included in the paper are solid low level radioactive wastes (LLW) and all types of solid non-radioactive wastes that may arise during decommissioning. The term 'waste management' is taken to include the whole range of activities from preventing or minimising the production of waste to disposal with no intention to retrieve.

The major regulatory regimes for decommissioning and waste management are shown in Table 1. The principal regulators are shown in Table 2. The information paper summarises the regimes and the roles of the regulators, and signposts further guidance. It also indicates possible future developments. These concern areas where the regulatory framework is unclear or unsatisfactory, or where developments are in progress or imminent. The areas that will be mentioned in this presentation are as follows.

### *For radioactive wastes and items:*

- the review of Exemption Orders
- revocation of authorisations when LLW disposal facilities are closed
- clearance levels for contaminated buildings, plant and equipment.

### *For non-radioactive wastes:*

- review of the duty of care
- review of exemptions from waste management licensing
- site waste management plans
- end-of-waste protocols.

**Table 1 UK Regulatory Regimes for Decommissioning and Waste Management**

<i>Type of site or facility</i>	<i>Decommissioning</i>	<i>Management of Radioactive Wastes</i>	<i>Management of Non-Radioactive Wastes</i>
Nuclear-licensed sites	NIA65	RSA93, NIA65	EPA90
MoD operated nuclear sites	MoD	MoD	EPA90
Civil non-nuclear sites and facilities	Planning	RSA93	EPA90
Defence non-nuclear sites and facilities	MoD	MoD	EPA90
Off-shore oil and gas facilities	Petroleum Act 1998	RSA93	EPA90

Key to Table 1

NIA65 – Nuclear Installations Act 1965, as amended.

RSA93 – Radioactive Substances Act 1993, as amended, and Exemption Orders.

EPA90 – Environmental Protection Act 1990, and related regulations (and other legislation in Northern Ireland).

MoD – Ministry of Defence.

Planning – the planning regimes for demolition and redevelopment.

**Table 2 Principal UK Regulators for Decommissioning and Waste Management**

<i>Type of site or facility</i>	<i>Decommissioning</i>	<i>Management of Radioactive Wastes</i>	<i>Management of Non-Radioactive Wastes</i>
Nuclear-licensed sites	HSE	EA, SEPA, HSE	EA, SEPA
MoD operated nuclear sites	MoD	MoD	EA, SEPA
Civil non-nuclear sites and facilities	LAs	EA, SEPA, EHS(NI)	EA, SEPA, EHS(NI)
Defence non-nuclear sites and facilities	MoD	MoD	EA, SEPA, EHS(NI)
Off-shore oil and gas facilities	DTI, HSE, HSE(NI)	EA, SEPA, EHS(NI)	EA, SEPA, EHS(NI)

Key to Table 2

HSE – Health and Safety Executive (in England, Scotland and Wales)

EA – Environment Agency (in England and Wales)

SEPA – Scottish Environment Protection Agency

MoD – Ministry of Defence

LAs – local authorities

EHS(NI) – Environment and Heritage Service (Northern Ireland)

DTI – Department of Trade and Industry

HSE(NI) – Health and Safety Executive (Northern Ireland)

## **Update on the UK low level waste policy review**

**Robert Jackson, Defra**

Robert Jackson is Head of the Policy Development Unit of the Radioactive Substances Division of Defra. In this presentation he will provide an update on the UK low level waste policy review.

# Latest Developments in the Regulatory Framework for Decommissioning and Management of Decommissioning Wastes

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## Scope of SD:SPUR Information Paper Types of Site

- nuclear-licensed sites (civil and defence)
- MoD nuclear sites
- non-nuclear defence sites
- other sites where may be radioactive wastes when decommissioned

## Scope of SD:SPUR Information Paper Types of Activity

- decommissioning
- management of solid low level radioactive wastes
- management of solid non-radioactive wastes

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## Review of Exemption Orders for Radioactive Wastes

- all EOs and Schedule 1
- form, conditions, numerical levels
- started 2006, expected to end 2009 with new legislation
- stakeholder engagement throughout
- on Defra website soon

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## Review of Duty of Care for Non-Radioactive Wastes

- part of wider review of controls on waste handling, transfer and transport
- aim to simplify regulations, update guidance, increase awareness and compliance
- consultation closed 6 March 2007

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## Review of Exemptions from Waste Management Licensing

- most exemptions over 10 years old
- some complex and difficult to use
- aim to simplify existing exemptions and add new ones
- will complement environmental permitting regime
- consultation starts March 2007

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## Non-Hazardous Exempt Radioactive Waste

- not subject to RSA authorisation
- not formally subject to regimes for controlled wastes (duty of care etc)
- need to clarify or amend legislation during EO, duty of care or WML exemption reviews, or in environmental permitting regime

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## Clearance Levels for Radioactively Contaminated Buildings, Plant and Equipment

- clearance means release from regulatory controls as radioactive
- have levels for wastes, need levels for:
  - plant and equipment that could be reused outside nuclear sites
  - buildings that could be reused after nuclear site delicensed

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## Other Developments for Non-Radioactive Wastes

### Site Waste Management Plans

- consultation on regulations starts April 2007

### End-of-Waste Protocols

- EA and WRAP project to produce protocols for about 10 materials

## UPDATE ON THE UK LOW LEVEL WASTE MANAGEMENT POLICY REVIEW

Robert Jackson  
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## WHY IS THE REVIEW OF LLW MANAGEMENT POLICY BEING UNDERTAKEN

- need to provide a clear policy in light of today's circumstances;
- onset of NDA decommissioning has made it clear that the Drigg and Dounreay facilities cannot meet UK needs;
- nature of LLW is diverse and this implies the need for a more flexible approach;
- there appears to be a decline in the availability of disposal routes for non-nuclear LLW.



## NATURE OF LLW

- About 2 million cubic metres will arise from existing nuclear and non-nuclear activities;
- About 90 per cent of committed future radwaste arisings by volume;
- About 0.003 per cent of committed future arisings by activity;
- Activity level spans a range of about 5 orders of magnitude;
- Arisings are from both nuclear and non-nuclear sources.

## ESTIMATES OF LLW ARISING PER YEAR (CUBIC METRES)

Source: radioactive waste inventory, Environment Agency and estimates from on-nuclear scoping study

Disposal route	Nuclear	Non-nuclear
LLW to Drigg	10,000	200-600
Incineration	2,000	3,400
LLW via landfill	14,000	100
VLLW via landfill	4,400 max	1,900
<b>TOTAL</b>	<b>approx 30,500</b>	<b>approx 5,400</b>
Secondary VLLW as ash	–	approx 42,000
Total LLW/VLLW from both sectors	–	approx 73,000

## NATURE AND PURPOSE OF POLICY STATEMENT

“To provide a high level framework within which individual LLW management decisions can be taken flexibly to ensure safe, environmentally-acceptable and cost-effective management solutions, that appropriately reflect the nature of the LLW concerned”.



## LLW MANAGEMENT POLICY REVIEW PROGRAMME

- April 2005. First national stakeholder workshop to discuss issues
- October 2005. Second national stakeholder workshop to discuss first draft of policy statement
- February 2006. Issue of Government consultation on further revision of proposed policy statement
- June 2006 – present. Government review of responses to consultation
- To come. Publication of revised policy statement



## OUTCOME OF CONSULTATION

- 150 responses from across the UK;
- about two thirds broadly supported the policy proposals, albeit with comments and caveats;
- others did not respond to all the consultation questions posed;
- disagreement levels of the order 5 per cent;
- many constructive comments and suggestions.

## REQUIREMENTS FOR DEVELOPMENT OF UK STRATEGIES

### Nuclear

- NDA to be responsible for preparing UK strategy for disposal of nuclear LLW;
- to provide for all nuclear industry waste (subject to appropriate commercial arrangements);
- to include operation of Drigg and provision for any future replacement.

### Non-nuclear

- commitment to develop a UK non-nuclear LLW management strategy;
- first step to identify extent and geographical distribution of arisings;
- ultimately, communities should take responsibility for non-nuclear LLW arisings.

## FORMULATION OF NUCLEAR LLW MANAGEMENT PLANS

Basis for formulation:

- use of a risk-informed approach;
- minimisation of arisings;
- forecasting of future arisings, based on fit-for-purpose characterisation;
- consideration of all practicable options for management;
- a presumption towards early solutions to waste management;
- appropriate consideration of proximity principle and waste transport issues;
- appropriate consideration of the potential effects of future climate change.

## MINIMISATION OF WASTE ARISING

- Application of waste hierarchy in line with non-radwaste;
- For LLW this involves:
  - not creating waste where practicable;
  - reduction of arisings through appropriate design and operation of processes/equipment, through waste characterisation, sorting/segregation; volume reduction and surface contamination removal;
  - otherwise minimising arisings eg through decay storage, re-use/recycling, and incineration (under appropriately regulated circumstances);
  - only then disposal.

## CONSULTATION AND PUBLIC INVOLVEMENT

- Nuclear operator's plans to be based on wide stakeholder engagement to allow for an equitable approach;
- Guiding principles for consultations:
  - provision for early local community input into the decision-making process;
  - openness/transparency at all stages;
  - provision of well-prepared, good quality, accurate and easily-understandable briefing material;
  - use of an iterative consultation process where appropriate.

## IMPLICATION FOR REGULATORY PROCESSES

- need to maximise the consistency of regulatory approaches;
- regulatory bodies to make clear, through published material, the steps that have been taken to address this requirement.

## OPTIONS AVAILABLE FOR CONSIDERATION

Options for consideration to include:

- (where necessary) disposal to higher activity waste facilities;
- near-surface facilities similar to the LLWR near Drigg;
- disposal to specific areas or facilities on, or adjacent to, nuclear licensed sites;
- in-situ disposal;
- disposal to landfill – either new or existing – subject to appropriate regulatory approval;
- incineration.

Such disposal to be subject to provision of safety cases to the regulators as required, in light of public consultation.